

REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested.

Claims 59-64 are presently active, Claims 1-58 are canceled without prejudice, and Claims 59-64 are added by the present amendment.<sup>1</sup> No new matter is added.

In the outstanding Office Action, Claims 1-37 were rejected under 35 U.S.C. § 102(b) as anticipated by Ishida et al. (U.S. Pat. No. 6,917,639).

Regarding the rejection of Claims 1-37, Claims 1-37 are canceled without prejudice. Instead, new Claims 59-64 are added by the present amendment. Applicant respectfully submits that new independent Claims 59-63 patentably distinguish over the applied references as discussed below.

New Claim 59 recites, *inter alia*, “a predetermined current supply unit configured to supply a predetermined current that is less than a light emission threshold current to the semiconductor laser ***at an arbitrary timing independent from the modulation signal controlling the drive operation of the semiconductor laser.***”

Instead, Ishida et al. describes a threshold current source 11, a bias current source 12 and a modulation current source 13. Ishida et al. in Fig. 8E shows that the drive current is a sum of a threshold current produced by the threshold current source 11, a bias current produced by the bias current source 12 and a modulation current produced by the modulation current source 13. The threshold current is superimposed to the bias component 1-10 ns before the transition on of the modulation signal C (Ishida et al. at column 10, lines 49-51). Thus, the threshold current is controlled to be supplied before the transition on of the modulation signal C. Ishida et al. indicates that the threshold current is supplied based on an external command signal A commanding the driving of the laser diode LD (Ishida et al. at

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<sup>1</sup> New Claims find non-limiting support, for example, in Fig. 12 and the corresponding description.

column 10, lines 23-25 and lines 54-64). The modulation current is controlled to be supplied based on an external command signal B, which is identical with the command A but formed with a delay of 1-10ns (Ishida et al. at column 10, lines 25-27). That is, a supply timing of the threshold current and a supply timing of the modulation current are not independent from each other.

Thus, Ishida et al. fails to teach or suggest “a predetermined current supply unit configured to supply a predetermined current that is less than a light emission threshold current to the semiconductor laser *at an arbitrary timing independent from the modulation signal controlling the drive operation of the semiconductor laser*,” as recited in Claim 59.

Likewise, Ishida et al. fails to teach or suggest “a predetermined current supply unit configured to supply a predetermined current that is less than a light emission threshold current to the semiconductor laser based on a predetermined current supply timing signal controlling a supply timing for supplying the predetermined current which signal is independent from a drive timing signal controlling a drive timing for driving the semiconductor laser,” as recited in Claim 60.

Likewise, Ishida et al. fails to teach or suggest “supplying a predetermined current that is less than a light emission threshold current to the semiconductor laser at an arbitrary timing independent from the modulation signal controlling the drive operation of the semiconductor laser,” as recited in Claim 62.

Likewise, Ishida et al. fails to teach or suggest “supplying a predetermined current that is less than a light emission threshold current based on a predetermined current supply timing signal for controlling a supply timing of the predetermined current, the predetermined current supply timing signal being independent from a drive timing signal controlling a drive timing for driving the semiconductor laser,” as recited in Claim 63.

Claim 61 recites, *inter alia*, “a control current supply unit that is arranged parallel to the modulation signal supply unit and supplies a control current to the semiconductor laser based on a switch operation controlled by a threshold-on signal, an amount of the control current controlled by a sample hold circuit which is controlled by ***a sample-hold signal independent from the modulation signal*** and samples a light emission threshold current of the semiconductor laser.”

Instead, Ishida et al. in Figs. 14-16 and 22-25 shows a sample hold circuit 41. However, the sample hold circuit 41 shown in Ishida et al. is controlled by a modulation signal (MOD SIG).

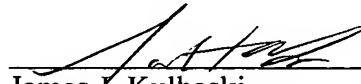
Thus, Ishida et al. fails to teach or suggest “... an amount of the control current controlled by a sample hold circuit which samples a light emission threshold current of the semiconductor laser,” as recited in Claim 61.

Accordingly, independent Claims 59-63 patentably distinguish over Ishida et al. Therefore, Claims 59-63 and the pending Claim 64 dependent from Claim 61 are believed to be allowable.

Consequently, in view of the present amendment and in light of the above discussions, it is believed that the outstanding rejection is overcome, and the application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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